

1. A mobile station for communicating with a base station,
comprising;
an oscillator;
a radio frequency demodulator for demodulating a radio frequency
band signal received from said base station by use of a first signal from said
oscillator;
a radio frequency modulator for modulating a second signal to be
transmitted by use of the first signal from said oscillator; and
an antenna for receiving said radio frequency band signal transmitted
from said base station, and for transmitting said modulated second signal to
said base station,
wherein an oscillation frequency of the oscillator is controlled by use of
a change of phase shift detected using the demodulated radio frequency band
signal received from the base station.
2. A mobile station according to claim 1, wherein the change of
phase shift is detected using a pilot signal received from said base station.
3. A mobile station according to claim 2, wherein said pilot signal is
extracted by despreading the demodulated radio frequency band signal using
a spread spectrum code assigned to the pilot signal.
4. A method of transmitting a first signal from a mobile station to a
base station, comprising the steps of:
demodulating a radio frequency band signal received from said base

station by use of a second signal from an oscillator;

modulating the first signal to be transmitted by use of the second signal from the oscillator; and

transmitting said modulated first signal,

wherein an oscillation frequency of the oscillator is controlled by use of a change of phase shift detected using the demodulated radio frequency band signal received from the base station.

5. A method of transmitting a first signal from a mobile station according to claim 4, wherein said change of phase shift is detected using a pilot signal received from said base station.

6. A method of transmitting a first signal from a mobile station according to claim 5, further comprising the step of:
despreading the demodulated radio frequency band signal to extract said pilot signal.

7. A mobile station which receives signals from a base station, comprising:

an antenna for receiving said signals from said base station;

an oscillator;

a demodulator for demodulating said received signals using a signal from said oscillator,

wherein an oscillation frequency of said oscillator is controlled by use of a change of phase shift detected using the demodulated signal received

from the base station.

8. A mobile station according to claim 7, wherein said received signals include a pilot signal, and said change of phase shift is detected using said pilot signal.

9. A mobile station according to claim 8, further comprising:
a despreader for despread the demodulated signal to extract said pilot signal.

10. A mobile station for communicating with a base station, comprising:
an antenna for receiving signals transmitted from said base station based on phase shift keying, and for transmitting signals to said base station;
an oscillator;
a demodulator for demodulating the received signals using a signal from said oscillator;
a frequency correction circuit for controlling an oscillation frequency of the oscillator to correct frequency error based on a detected phase of the demodulated signal; and
a phase correction circuit for correcting a phase of at least a part of the demodulated signals based on said detected phase of the demodulated signal.

11. A mobile station according to claim 10, wherein said phase

correction circuit performs phase correction on a symbol basis.

12. A mobile station according to claim 10, said detected phase is a phase detected using a pilot signal received from said base station.